



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,674	02/21/2002	Seung Hoon Hwang	HI-0064	4801
34610	7590	12/13/2005		
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			EXAMINER HALIYUR, VENKATESH N	
			ART UNIT 2664	PAPER NUMBER
DATE MAILED: 12/13/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/078,674	HWANG ET AL.	
	Examiner	Art Unit	
	Venkatesh Haliyur	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/21/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>one</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 24 have been examined.

Claim Rejections - 35 USC § 112

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: plurality of, and the examiner suggests the applicant to include this element in claim 1, to read as “combining time alignment bits (TAB) information received in a “plurality of” frames during a predetermined period”

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3,10,11,13-16,19,20,22-24 are rejected under 35 U.S.C. 102(e) as anticipated by Toskala et al. [US Pat: 6,657,988].

Regarding claims 1-3,13,14,16, Toskala et al. disclosed “Method and Apparatus for Timing Adjustment for Uplink Synchronous Transmission in Wide Code Division Multiple Access”, a method for controlling transmission timing combining (summing)

time alignment bit (TAB) information received during a predetermined period, determining a timing renewal (adjusting) value based on the combination and controlling the transmission timing according to the timing renewal value, selecting multiple units of the TAB information, on the basis of a predetermined value (threshold), prior to combining the selected units of TAB information and determined deviation [Fig, 3a, 3b & 4, column 4, lines 55-67, columns 5, 6 & 7 lines 1-12, column 2, lines 18-43].

Regarding claim 15, 19, 20, 24 Toskala et al. disclosed method of controlling a transmission time of uplink signals in a base station of a wireless communication system using an uplink synchronous transmission scheme by setting a base time for receiving the uplink signals from a plurality of mobile stations, receiving a particular uplink signal from one of the plurality of mobile stations, determining a deviation of the transmission time from the base time by comparing the particular uplink signal's transmission time with the base time, and transmitting a plurality of time alignment bits of a code sequence, from a set of orthogonal code sequences, through a downlink channel to the plurality of mobile stations [Fig 3a, 3b, column 2, lines 5-43, column 3, column 4, lines 55-67, columns 5, 6 & column 7 lines 1-24].

Regarding claims 10, 11, 22, 23 Toskala et al. disclosed a method of controlling timing by checking the timing of a signal transmitted from a user equipment (UE), determining a timing control command value according to a result of the timing check, converting the timing control command value into a plurality of time alignment bit (TAB) information to control the timing and transmitting the plurality of TAB information to the UE [column 2, lines 18-43, column 3, column 4, lines 1-35].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-9,12,17,18,21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. [US Pat: 6,657,988] in view of Dent [US Pat: 6,680,928].

Regarding claims 4-6,17,18, Toskala et al. disclosed "Method and Apparatus for Timing Adjustment for Uplink Synchronous Transmission in Wide Code Division Multiple Access" a method for assigning a real number or a complex number [column 6, lines 32-55] to TAB, but fails to disclose assigning weighting value to each of multiple units of the TAB information prior to combining the weighted units of TAB information, the order and the linear relationship.

However, Dent disclosed in "Method and Apparatus for Timing Adjustment for Uplink Synchronous Transmission in Wide Code Division Multiple Access" a method for assigning weighting value to each of multiple units of information prior to combining the weighted units of information in order with linear relationship [Fig 2, column 5, lines 47-67, column 6, column 7, lines 1-65]

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the teachings of Dent on the method of assigning

weighting value in the system of Toskala et al. to assigning of weighting value to each of multiple units of the TAB information prior to combining the weighted units of TAB information.

Regarding claims 7-9,12,21, Toskala et al. disclosed that each bit of the converted TAB information is encoded orthogonally with one, two or three values (which is achieved by using two bits) [column 2, column 5, lines 45-54], but fails to disclose specifically TAB information is bi-orthogonally encoded. However, Dent also disclosed a multi-bit bi-orthogonal coding method in his invention [column 13, lines30-67].

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the teachings of Dent on the method of bi-orthogonal encoding of TAB with multi-bits in the system of Toskala et al. to include bi-orthogonal coding sequence with two bits.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art in reference here are Toskala et al and Dent.

4. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached @ (571)-272-3134. Any inquiry of a general

Art Unit: 2664

nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).


Ajit Patel
Primary Examiner